<div align="center">REMARKS</div>

This Amendment is in response to the Office Action dated March 18, 2008 in which claims 19-25 and 27-37 are initially rejected. Applicant respectfully requests reconsideration and allowance of all pending claims in view of the above-amendments and the following remarks.

I.   CLAIM OBJECTIONS

Claims 19-37 were objected to because of a typographical error (a missing symbol) in claims 19, 33 and 37.

Accordingly, these claims are amended to replace the relation "N 2" with "N $\geq$ 2" to be consistent with the specification, for example on page 9, lines 2.

II.   CLAIM REJECTIONS UNDER §101

Claim 32 is rejected under 35 U.S.C. § 101 as being directed to allegedly non-statutory subject matter.

With this Amendment, claim 32 is amended as suggested by the Examiner. In addition, claim 32 is amended into independent form by incorporating the limitations of claim 19.

Consideration and allowance of claim 19 is respectfully requested.

III.   AMENDMENTS

Claims 19, 32, 33 and 37 are amended so that the main and inventive features appear more clearly.

This patent application, describes a technique of managing several data packets, for instance flows of images, at a network input.

More precisely, there is a desire to avoid network congestion, while remaining able to accept bursts of priority packets. In order to achieve this, a device of token buckets of several levels is implemented. The allocation of the tokens to a packet is done according to its level of priority. The packets are inserted in a queue, at the network input, if tokens could be allocated to them, or refused (for instance, rejected) if the opposite was the case.

According to prior art, one is not concerned about controlling the buffer filling-up on input, but about optimizing the delivery of the received packets. Thus, one considers that all the packets at the network input are received and stored. On the contrary, the present claims provide for, for example, a sole buffer memory at the network input, and for refusing packets according to their level of priority if necessary to optimize the filling-up of this input memory.

Notably, this arrangement allows, in case of congestion, to save the priority information, by refusing the information that has lower priority, even if the buffer is not completely full.

IV. CLAIM REJECTIONS UNDER §102

Claims 19, 24-25, 33 and 37 are rejected under 35 U.S.C. §102(e) as being anticipated by Acharya et al., U.S. Patent No. 6,901,050 B1.

A. U.S. Patent No. 6,901,050 (ACHARYA)

This document describes a technique for controlling packets in a network. It implements a bucket with multiple tokens, associating tokens to packets to be forwarded.

To achieve this, several output ports are implemented, each associated to a token counter (please refer to column 1, lines 55 and 56; column 2, lines 20 and 21).

A priority administration is suggested (see, for instance, column 6, lines 46 to 53).

One assumes, therefore, that all the packets have been delivered (no refusal at input), and saved (in the memory 170, figure 1).

Moreover, the objective of this document is clearly not managing the network congestion: the output buffers do not contain the data flow packets themselves, but corresponding pointers (please refer to column 5, lines 59 and 60).

ACHARYA does not provide for controlling input of the packets, using a sole input packet buffer, by not accepting inputting packets, if necessary, to avoid congestion.

Therefore, independent claims 19, 32, 33 ands 37 are new in view of ACHARYA: it does not concern an input buffer for packets but an output buffer, storing pointers instead of packets.

V.   CLAIM REJECTIONS UNDER §103

Claims 19-25, 27-35 and 37 are rejected under 35 U.S.C. §103(a) as being unpatentable over Yang et al., U.S. Publication No. 2002/0114334 A1 in view of Erimli et al., U.S. Patent No. 6,925,055 B1.

Claim 36 is rejected under 35 U.S.C. §103(a) as being unpatentable over Yang et al., U.S. Publication No. 2002/0114334 A1, in view of Erimli et al., U.S. Patent No. 6,925,055 B1 as applied to claim 33 above, and further in view of Oldak et al., U.S. Patent No. 7,085,236 B2.

A.   **U.S. Publication No. 2002/0114334 (YANG)**

In order to build an argument on obviousness, the Office Action does not start off from the above-discussed document, but from another document (YANG), that suggests optimizing the management of data flows, in an environment presenting a limited bandwidth. It is possible that the Examiner noted the fact that ACHARYA does not position itself at the input of the network, and looked for a document closer to this aspect.

Indeed, the NAD (32) module of figure 1 is placed at the input, or more precisely in interface, between a LAN and a WAN.

According to this document, one plans to incorporate the incoming and outgoing traffic, taking into account priorities (§ 20). To achieve this, one bases oneself on the calculation of ratios between incoming and outgoing packets, and one adjusts, as a consequence, the generation of tokens (§21).

The NAD is supposed to control the allocation of incoming packets by distributing them to memories corresponding to different levels of priority (§ 53).

Thus, it seems that this document is closer to the discussed field of invention since it takes into account the incoming packets. However, it <u>manages a plurality of buffers, each corresponding to a level of priority, whereas the present claims describe only one input buffer</u>.

Besides, this prior art document does not implement a bucket with multiple tokens to manage only one buffer, but a technique of 'simple' tokens associated at each input queue.

B.   **U.S. Patent No. 6,925,055 (ERIMLI)**

The Office Action took note of the fact that, based on the ERIMLI document, the technique of bucket with multiple tokens was known and stated that it would have been obvious to use it in the YANG technique.

This ERIMLI document describes indeed a management of packets presenting different levels of priority, implementing a device of buckets with multiple tokens. However, similar to the document ACHARYA, it is a question of managing a plurality of output buffers. One can, in particular, note that it is specified that the token buckets correspond to several queues of priority (column 1, lines 53 to 62).

On this very point, it seems that the Office Action is confusing the token buffers described in the discussed claim 19 (that are zones for storing tokens, and not data) with the packet buffers and, in particular, the (only one) input buffer.

Just as it is described in the ACHARYA document, the output buffers in the ERIMLI document contain pointers (column 5, lines 54 to 57) and not the packets themselves. Thus, it is not a management of network congestion. On the contrary, one supposes that all the incoming packets are taken into account, with the sole objective of organizing a hierarchy for their delivery.

The combination of the documents, suggested by the Office Action, does not seem to disclose the claimed invention, according to Applicant, since neither of the documents suggests an adapted technique to accept or refuse packets at the network input (that is to say in an input buffer) according to the level of priority managed thanks to a multiple token bucket.

Oldak et al., U.S. Patent No. 7,085,236 also does not disclose these elements.

VI.   CONCLUSION

The cited documents are not relevant, because none of them suggests a technique for managing congestion by managing the acceptance or refusal of packets on input, according to their level of priority.

All of these documents consider that all of the received packets are taken into account and that it is sufficient simply to manage their order of delivery. In no case is the refusal of incoming packets planned so as to avoid congestion.

An additional proof of the difference between both techniques is that they can be combined in the same system and cohabit independently (congestion management at the input level, as according to the claimed invention, on the one hand, and delivery management at the output level, on the other).

This novelty appears more clearly in the amended claim 19, for example, in which a 'step of rejecting' is specifically mentioned.

With the above amendments, claims 19-25 and 27-37 are believed to be in condition for allowance.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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